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ARROWHEAD

COMBAT DEVELOPMENTS COMMAND



December 1971



Season's Greetings



Commander's Call

As Christmas time draws near, the story of the birth of Christ once again comes into the mind of every person who knows of the event. Over these past almost two thousand years, many elaborations have grown up around the simple scene in Bethlehem: we have Santa Claus, Christmas trees, buildings arrayed in lights; we have carolers and parades and shop window displays. A return to the picture of Bethlehem, however, can tell us more about Christmas than all the tinsel and glitter ever could do.

Christ was born in a stable in a time of political oppression. Mary and Joseph had been forced to make a journey that was hard and dangerous for them. In the midst of these difficulties, and standing in contrast to them, the birth of Christ is surrounded by images of stability, permanency, and peace: the pastoral setting of the quiet manger scene, the shepherds and their flocks; the words of the angel—*peace on earth, good will toward men*.

The quest of the Magi for the Christ Child is another of many, many associated Christian images that shows the strong desire of man for religious and philosophical leadership, for love of fellow man, for release from oppression, and for deliverance from the scourge of war. Perhaps the first and foremost message of the Nativity is that *men and events have not changed very*

much in twenty centuries. Our own inner thoughts, when we ponder the most important things that life can offer, *still turn to religion and philosophy, to love and freedom—and to peace*.

Let us reflect on these considerations, as they affect us.

We as Americans are fortunate to belong to a political system founded on individual freedom and responsibility; we are a nation respecting the rights of man. *Religious and philosophical freedom is a hallmark of this country*, which—for example—allows me to freely express my own deep feelings for Christianity and allows all other Americans the same right with respect to their religions. This system of government deserves our devoted support and protection, and it follows that there could be no more worthwhile and productive goal than to spend your life in service of the causes that the United States of America so well represents.

Love is what Christ called for, and the generations of Americans alive today may realize this better than others—I'm not sure, but it seems that way to me. In the midst of the wars that have racked our time, and the international growth of political, social, and religious oppression, we have come to know more and more that love and consideration of our fellow man is what should guide the world; and we in the

Army are less shy than we used to be about coming out and saying so. We have helped solve major social problems in the past and we are still working hard on the present ones.

Peace, as Christ recognized, is the guarantee that these other considerations can live, and in the most practical sense it is what we seek first. As military-civilian members of the Army, you can be proud of our commitment to peace, for we are the strongest force for peace in all the world. This is why I serve, and I hope that this in a large part is why you serve your country.

Christmas, then, is a time to think, to reflect, and to ask yourself:

- love of fellow man?
- political and religious freedom?
- peace?

A glance around is enough to know that there is plenty left to be done to make the world better, and we should all be inspired to renew our efforts. But I think you can take heart in the realization that *as a member of the United States Army you are already making an inestimable contribution to the true goals that Christmas represents to all the world*.

Merry Christmas! May God bless you and your family in the new year ahead.

John Norton
Lieutenant General, U.S. Army
Commanding

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Arrowhead Calls On INCS Group

What Has Six Months Wrought?

By Major J. D. Coleman

The first major action in the general reorganization of Combat Developments Command was the creation of the Intelligence and Control Systems Group. Even as studies were conducted on the feasibility of some aspects of the command realignment plan, feverish activity was proceeding in a converted gymnasium nestled next to the South Post golf course at Ft. Belvoir.

The object of the activity—to preside over the demise of the Combat Support Group and act as midwife to the birth of a new group, to be known to the rest of CDC and to the Army as INCS.

Now, some six months after the labor pains, ARROWHEAD visits Brigadier General Edward F. Gudgel, Jr., Commanding General of INCS, to find out what all the fuss was about.

ARROWHEAD: I think the first question must be: what was it that CDC was doing, or not doing, that led General Norton to the decision to establish INCS?

BG GUDGEL: It seems to me that the basic difficulty existed particularly in the areas that this group was established to dwell on—intelligence, command and control, and tactical data systems. And when I say intelligence, I am talking about the total intelligence problem—not just the structuring of Military Intelligence units . . . not just the collection means, such as unattended ground sensors . . . or even the tactical communications and data systems through which information is funneled to the com-

mander. What I mean is the total system of intelligence to fill the commander's needs to answer his critical questions.

All of these subjects were being looked at piecemeal by CDC and the Commanding General had to turn to any number of different subordinate elements of his command to get answers to questions that really dealt with a single but all encompassing system.

ARROWHEAD: I suspect that underlining all this was the Commanding General's gut feeling that intelligence was one of the Army's major deficit areas?

BG GUDGEL: There's no question about it. As General Norton has said time and time again, we have progressed in

the development and use of fire power and mobility far beyond our ability to apply these capabilities appropriately based on adequate intelligence.

ARROWHEAD: So we now have a group that provides a focal point for the development of intelligence and command and control as a total system. It is obvious that there is more to the problem than just providing a focal point . . . someone must do the work. How are you organized for production?

BG GUDGEL: Well, of course, we have our two organic agencies (Communications-Electronics Agency, Ft. Monmouth, N.J. and Intelligence Agency, Ft. Huachuca, Ariz.) which produce basically the normal results of combat devel-



We have to achieve some significant and dramatic improvements in the intelligence field.



We are working mighty hard at trying to get a good handle on what this total intelligence system really is . . .



what it leaves to be desired . . . where the gaps are . . . where the voids are . . . the capabilities . . . and what we should do about it for the future.

opment actions. These include the studies from which our concepts develop . . . field manuals, which are the means of promulgating doctrine . . . TO&E's and BOI's, which reflect organizational structuring . . . and, of course, the tests and evaluations which go on to verify all our other conclusions.

But our production isn't limited to the field agencies because we have within this group headquarters production capabilities and responsibilities. At this moment there are two pretty good sized study efforts being conducted right here in group headquarters. The Interoperability and Continuity of Operations study deals with the various tactical data systems and their interrelationship, both between themselves and between Army systems and the systems of other services. Another study which we have underway is the TOS Cost Effectiveness study and here we have a very close relationship with Systems Analysis Group which actually is conducting Phase I for us.

ARROWHEAD: And this brings me to the question of interfaces. You obviously must have close and continuous relationships with a number of organizations, both within and without the CDC command family. What are some of the external interfaces?

BG GUDGEL: We work very closely with the combat development activity of the Army Security Agency. There is a very close relationship between this group and the combat de-

velopments section of the Strategic Communications Command. We are very deeply interested in anything that these agencies do in the combat developments field.

We have a very close relationship with MASSTER, of course, which has been very heavily engaged in a STANO test program. MASSTER testing has been considerably expanded and we are very much interested in their expanded scope because they will be doing some tests for us on the IBCS (Integrated Battlefield Control System) concepts. Moreover, the systems for which we are responsible will play a great part in the TRI-CAP tests.

Computer Systems Command is the software producer for the Army's tactical data systems. Since we have the responsibility for defining the functions to be performed by the tactical operations system (TOS), as well as the integration of all tactical data systems into a total system, we are very definitely tied in closely with CSC. By the same token we have a very close relationship with the project manager for Army Tactical Data Systems at the Army Materiel Command.

ARROWHEAD: What about INCS' relationship with other CDC organizations?

BG GUDGEL: Well, let's use the Tactical Data Systems as an example. INCS is the proponent for the development of one system . . . TOS, the Tactical Operations System. PALS Group, however, is the CDC proponent for the development

Our initial experience in the short time we have been operating under this organization has been encouraging, and most assuredly has validated the need that General Norton saw when he organized this group.

of the Combat Service Support System or CS₃.

COMS Group has responsibility for three systems . . . TACFIRE through its Field Artillery Agency, TSQ-73 through the Air Defense Agency and ATMAC through the Aviation Agency. But we have the responsibility for integration of these systems into a single, total system, so I think the point made here is that we must, and do, have very close connections with the other groups.

I might go on at this juncture and expand just how we

tie in with the other groups in connection with other systems. Intelligence, for example, is a function that cuts across all lines of command. COMS is, of course, responsible for the echelons at and below the division level with CONFOR carrying the ball above the division level. But our functions don't fit within these bounds. We, therefore, look for those groups to establish the larger concepts for each of the echelons for which they are responsible. Then we respond to these concepts or requirements and work to fit the system or portion of our system into the overall concept. We think that it is pretty obvious that we have a very large coordination job to get done.

ARROWHEAD: The other side of the interface coin is the fact that all these agencies now essentially have only one contact point within CDC. What has been their response to this development?

BG GUDGEL: I can say without hesitancy that responses have been favorable. I know that they have been very favorable with our point of contact with General Fulton's shop in ACSFOR. It certainly makes it easier for these agencies to deal with one organization rather than many. Our initial experience in the short time we have been operating under this organization has been encouraging, and most assuredly has validated the need that General Norton saw when he organized this group. I hasten to add that we still have a good ways to go to get on top of things in all our areas of responsibility.

ARROWHEAD: One of the



Commanding General's goals, in his reorganization of CDC, was to provide greater autonomy and, hence, greater visibility for his production groups. Do you think we are achieving that goal?

BG GUDGEL: Let me answer that this way. I think that the idea is well accepted and I know from my personal meetings with General Fulton, for example, that better responsiveness to the needs of Department of Army is expected. But I must say that I feel we still have to improve considerably in making our products readily acceptable. This was a pretty big ball of wax that was tossed in our lap. When we pull it all together and submit that solution to Department of Army, well, then I think we'll have more than proven our point.

ARROWHEAD: Let's open up that ball of wax and examine it. Could you explain?

BG GUDGEL: We have to achieve some significant and dramatic improvements in the intelligence field. We are working mighty hard at trying to get a good handle on what this total intelligence system really is . . . what it leaves to be desired . . . where the gaps are . . . where the voids are . . . the capabilities . . . and what we should do about it for the future.

As I said in the beginning, much of this had been approached piecemeal prior to the organization of this group. Now we are coming to the time when we will be able to look at it as a system. We will be able to see what the ground commanders' needs are for information and what means we can provide to him to satisfy those needs. We must be able to process that information quickly in order to answer the significant, critical questions that the commander has. But I can't em-

We are . . . involved in improvements in hardware to do a better job as well as hardware to do the job of collection of information which previously has been uncollectable.

phasize too much that this is a total system that has to function and I must confess that we haven't been able overnight to get a good handle on it. We're working in that direction and I think we are making progress, but it is going to take us a little longer before we achieve our real purpose.

ARROWHEAD: What you have just described appears to me to be the intelligence subsystem for the IBCS and, thus, really is one quarter of the total problem with which you are wrestling.

BG GUDGEL: That's right. As I mentioned earlier in talking about our internal interfaces, INCS has proponentry for TOS, which as we see it now, supports the intelligence and operations subsystems of the IBCS, as well as the commander's integrating subsystem. The tactical data processing systems discussed earlier will, of course, play a part in the total IBCS concept which we must pull together.

I should add at this point that when I describe the intelligence subsystem of the IBCS, I'm not just talking about the future, I'm also talking about today. We have an intelligence subsystem today, but it is essentially manual. However, I don't want to leave the impression that IBCS can only be implemented by tactical data systems.

I think there are some improvements, and we certainly are looking for those that can be made to our staff organizations and our procedures, even if tactical data systems don't pan out for us . . . even if they prove more expensive than we can afford to put in the field, or at least to the extent that we perhaps now are envisioning.

ARROWHEAD: I would gather from this that you are talking less about hardware and more about doctrine and organization?

BG GUDGEL: Yes, definitely. We are, of course, involved in improvements in hardware to do a better job as well as hardware to do the job of collection of information which previously has been uncollectable. But a major task is to carefully scrutinize organizations and procedures. For example, one of the recommendations of the TARS-75 (Tactical Reconnaissance and Surveillance Study) was the addition of a Battlefield Information Control Center (BICC). To certain echelons of command, this will provide a focal point for all information being fed into that command post . . . a focal point that can manage the collection effort, analyze information obtained, convert it into intelligence, and disseminate it to the commander and his staff. We are looking at an organization that has been tested under a low intensity environment at MASSTER, and we are commencing to test it under mid-intensity conditions. We are pretty well convinced


that the concept is good, but we haven't yet settled on exactly what the organization should look like or what its command structure should be. But back to my point . . . we can't just look at hardware, we must also look very hard at organizations and procedures to improve this total system.

ARROWHEAD: General Norton repeatedly has made the point that the Army soon is going to have to make some very hard decisions on hardware acquisition or retention. For example, could the Army

We are going to have to determine that for our money we are going to get something that is really going to be an assist to the commander and the Army in the field in performing its mission.

get along with fewer tactical vehicle types, or fewer type aircraft? Is it possible for these same kinds of questions to be asked and answered with intelligence and control systems hardware?

BG GUDGEL: Yes, I think they can. A prime example would be the unattended ground sensor systems. These are pretty expensive systems and a decision is going to have to be made at some point in time—and, as far as I'm concerned, the sooner the better—as to their viability, their value to the commander in the field, and their total cost. Sensor systems have been used to good advantage in Vietnam; we've tested them extensively in a low intensity environment at MASSTER; and we now are turning to the mid-intensity environment . . . what systems do we need and what can we afford? Decisions must also be made soon on tactical data systems. We're proceeding with the development of these systems and some of them, like TACFIRE and CS₃, are pretty far along. We are going to have to determine that for our money we are going to get something that is really going to be an assist to the commander and the Army in the field in performing its mission. I don't think we are any different from the guys who run the tactical vehicle review boards in this respect.

ARROWHEAD: Thank you, General Gudgel. 

At Ft. Sill...

Concern For The Army's Red Legs Drives CDC's Field Artillery Agency To Improve Weapons and Munitions



US Army artillerymen prepare the Pershing 1-A missile for a practice countdown.

By MSGT Raymond Davis

Sweeping changes in methods of target acquisition and the development of improved weaponry and munitions highlight the activities of the US Army Combat Developments Command's Field Artillery Agency as it prepares for the artillery role of the 1970's.

The Agency staff is taking a hard look at the use of guided missile systems, including the surface-to-surface Lance and Pershing missiles.

A Division Support Rocket System, an indirect fire anti-armor weapon of the multi-launch concept, and the use of aerial artillery also are being studied.

The Lance missile already is programmed into the artillery organizational structure to replace the Honest John rocket and the Sergeant missile. It is anticipated the Corps artillery oriented Lance missile will be fielded sometime next year.

The Division Support Rocket System will lend a high rate of mobility and fire power to the field commander if it is accepted into the inventory. Carried on a five-ton truck, the rail-mounted rockets have a range of about 15 miles, with the rockets being launched directly from their shipping containers.

An anti-radiation missile with a radiation seeking device designed to home on radar

transmitters already is in the discussion stage by agency officials. Army planners here anticipate many of the modified weapons systems will have a terminal homing feature.

The Army's Pershing missile is being given a modified warhead to give the artillery even more firepower for long range targets.

Although considerable emphasis is being given to various guided missile systems, tube artillery, traditionally the artilleryman's main source of firepower in a direct supporting fire role, certainly is not being neglected by the Agency.

Development of the "soft recoil" 105 millimeter cannon re-

mains high in priority. Currently in the testing stage, the soft recoil concept will greatly increase the efficiency of the Army's smallest howitzer.

Field Artillery Agency planners also are looking at the soft recoil ability for the larger howitzers, although they say certain munitions problems involving the eight-inch and the 155 millimeter guns make the large gun soft recoil solutions more difficult at this time. Nevertheless, the soft recoil concept is considered to be a major breakthrough in artillery technology.

The new 155 millimeter cannon, the XM198, is being tested and incorporates the latest advances in tube artillery. Overall, the Agency is looking forward to increased range, accuracy and fire power in all the tube artillery pieces.

As the Army planners today look long and hard at the weapons of the 1970's, doctrine to support the artillery role also is being scrutinized.

A conceptual study of the TARSEAD program (The Army's role in the Suppression of Enemy Air Defense) is taking an increased priority in long range planning.

Primarily a literature research study, TARSEAD reviews the doctrine involving overall responsibility of the Army's role in reducing enemy air defense effectiveness. It is one of the major Department of Army directed studies being conducted by the Artillery Agency. The conceptual studies division also is in the preliminary stages of the cost-operational effectiveness analysis of the new soft recoil howitzer. This is part of the new equip-

ment development cycle to check the cost operational effectiveness of each new piece of equipment.

In all of its planning, it is evident the Agency believes in a rational balance of both conventional and nuclear munitions.

The missions of the artillery are many and varied, requiring the ability to attack small targets very close to friendly field forces. It also requires the ability to launch an in-depth attack against major targets by missiles armed with either conventional or nuclear warheads.

Some hard-core advocates of missile weaponry believe that missiles of rocket systems eventually will out-strip conventional tube artillery and that replacement of the howitzer is "just around the corner".

At least one Agency spokesman believes just the opposite.

Lieutenant Colonel James R. Pullin, chief of the Conceptual Studies Branch and a veteran artilleryman, said, "artillery must continue to provide close and continuous fire support to maneuver battalions in the field."

"There are advantages to missiles systems as well as tube systems," he said. "Missile systems can take a delicate warhead and deliver it to the target at greater ranges than the tube system. However, when a missile is fired, the time factor involved in reloading is usually figured in minutes."

"Tube artillery, on the other hand," Col. Pullin said, "has the advantage in that it has a rapid rate of fire in relation to the missile. It can reload and be ready to fire in a matter of

seconds. Tubes can fire on targets close to friendly troops. It also is the only weapon which can give this type of close and continued support to a ground-gaining Army. Missile systems are usually not as accurate and are much more expensive".

Commenting further, the colonel said, "if you want something that delivers a large payload and delivers it deep into enemy territory, a missile is the answer. On a round-for-round basis, the missile will carry more payload."

"So each system has its own unique characteristic and the artilleryman or the fire support coordinator back at a headquarters must judiciously analyze the pros and cons of each system and decide which will deliver the necessary punch to support the field commander."

Current studies and artillery weapons development are primarily oriented towards a European environment as opposed to a Far Eastern or Southeast Asian environment. However, consideration of various factors involving possible conflict anywhere in the world is not being overlooked in the artillery role. Every conceivable problem involving conflicts in any environment is being considered.

A major problem and one that is being given extensive study is the search for effective anti-armor munitions. Agency planners see no real problem in delivery concepts. The real problem lies in development of warheads, both conventional and nuclear, which give a high kill rate against sophisticated armor vehicles. A continuous research program currently is being conducted in this field.



The 155mm Howitzer, M109A1. This weapon would primarily be employed to support mechanized infantry and armor units.

Even though artillery weapons developments continue at a rapid pace, the problem of target acquisition looms as a headache to the Artillery Agency. Artillerymen continue to rely on out-moded methods of acquiring targets. The thinking at Ft. Sill is that even the best weapons and munitions must have an adequate target and if the target cannot be found, the new weapons have lost their usefulness to the field commander.

To keep pace with new hardware developments, automatic data processing, communications and artillery mobility concepts are being closely studied.

Colonel James R. White, chief of the Weapons Support Division, said a great deal of research and development is being devoted to target acquisition, survey and meteorology. All of these fields are being updated and streamlined to meet the needs of the more sophisti-

cated weapons systems.

Col. Smith said the Army artillery forward observer soon will be equipped with a new laser range finder.

The range finder has the ability to determine the range from a forward observer to the target with extreme accuracy by measuring a laser beam that is bounced off a target.

"The largest, single problem in the forward observer's ability to direct fire has been his inability to accurately measure range," the colonel said.

"At the same time, we also are giving him the tools to more accurately locate himself by using the laser range finder."

Based on forward observer reports and the use of the laser equipment, tactical fire computers in the fire direction center can compute the coordinates of the target very accurately. Continued development of the laser range finder eventually will create a more accurate and

rapid method of target acquisition.

The modified laser beam system also will give the forward observer an increased capability in tracking moving targets.

In the field of weapons locating radar, the Weapons Division has recommended use of the present counter-mortar radar system to temporarily replace the current counter battery fire radar system. The counter-mortar radar system has been modified and has an enhanced ability to locate artillery, mortars and rockets. Both systems however, need to be replaced and are not considered as current state-of-the-art.

Consequently, the Agency has validated requirements for a new counter-mortar radar as well as a new counter battery radar. Col. Smith said development is closer on a new counter-mortar radar system, than the counter-battery radar, although developments continue on both systems.

"Eventually," the colonel said, "we may develop a radar system compatible with both radar requirements, but I see that in the very distant future."

The Army artillerymen continue to see a threat in enemy mortar use, and will continue to probe counter-mortar techniques. As for the American arsenal, the Agency does not see any phase out of the mortar and its replacement by light artillery, although airborne and air mobile divisions depend largely upon light artillery support as a source of heavy firepower. According to Col. Smith, all field units used the 81 millimeter mortar quite extensively in Vietnam.

The Agency recently purchased on an ENSURE buy, a new radar system, the ANTPS-58, which looks like the French RATAC radar. The most important factor of the ANTPS-58 is its variable sector scanner which can observe the entire range of the system at one time, instead of being required to search for targets.

Several of the new radars currently are in Vietnam and are proving very successful.

However, one of the most promising target acquisition systems, according to Col. Smith is the current Airborne Target Locating System, a carry over from the Visual Airborne Target Locating System, or VATIS.

"The system has been in development since the middle 1950's, and three systems currently are in stock, although only one system is equipped with the most updated range

measuring devices," Col. Smith said.

The helicopter mounted system utilizes a gyroscope which gives an excellent orientation of direction North, and a vertical reference to measure vertical angles. When placed on a known point, a ground tracking radar tracks the aircraft in flight. A computer and a data link to the radar tracks a beacon in the aircraft, measuring azimuth, vertical angle and slant range. The computer, on an instantaneous basis is computing where the aircraft is located. The radar, looking at a target knows the direction from the aircraft to the target by the azimuth gyroscope. The vertical angle is known due to the vertical reference gyroscope. A laser range finder will measure the slant range from the aircraft to the target. When a target is located, the operator pushes a button and the target

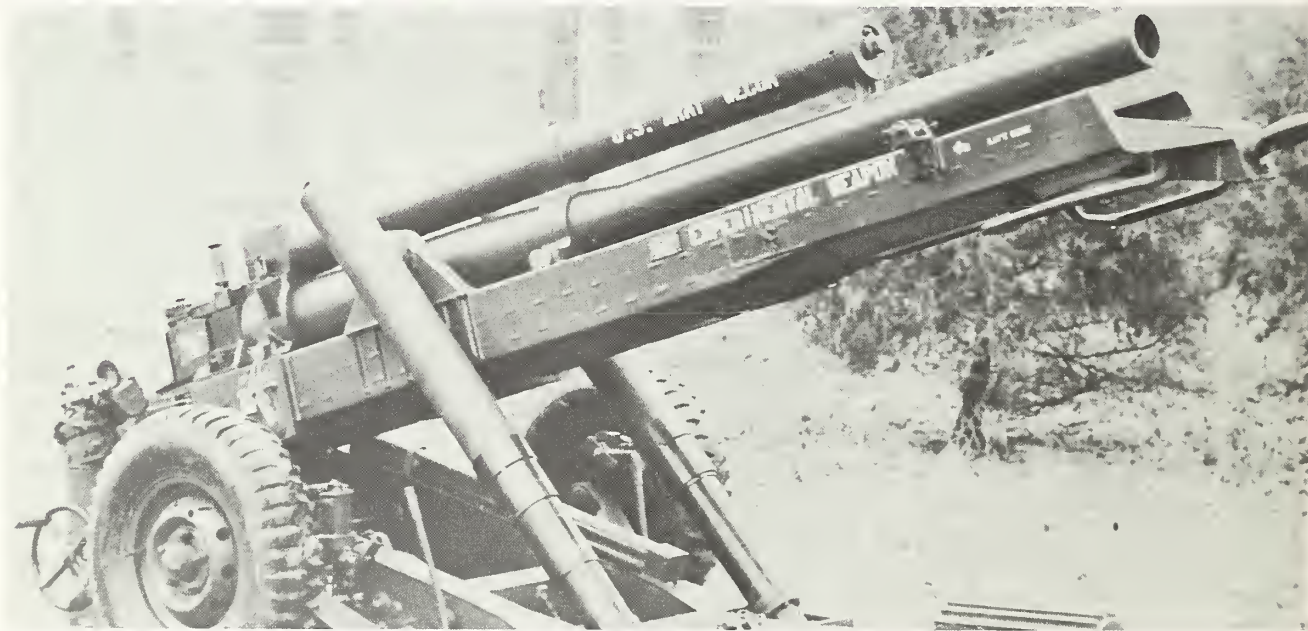
acquisition data is fed into the computer.

According to CDC's Artillerymen, the role of unattended ground sensors is considered a breakthrough in target acquisition and a requirement has been put out for a field artillery-oriented Remotely Monitored Battlefield Sensor System, or REMBASS.

The Artillerymen see the sensors in three roles—surveillance, security of perimeters and, most important, that of true target acquisition.

Unattended sensors have received satisfactory ratings after their debut in Vietnam.

Cutting across the entire spectrum of artillery systems, the CDC Field Artillery Agency is leaving no stone unturned in its continuing efforts to keep the Army's "Redlegs" the best equipped and organized artillerymen in the world. (A)



The 105mm Howitzer, experimental model (XM) 204, would be primarily employed to support light infantry, airmobile and airborne units.



Ripple-Fire Rocket Launcher. The system is envisioned primarily as a defense weapon against massed armor. It is capable of firing ten rockets at extended ranges in rapid fire order.



The 155mm Howitzer, experimental model (XM) 198, will be primarily employed to support infantry and airmobile units.



Missile Men Tell All To MAME

By Arrowhead Staff

"Put the blame on Mame, Boys," Sadie Thompson sang in the 40's.

But in 1971, if you worked missiles or munitions, you told it to MAME.

Sadie Thompson's Mame was no lady and neither was MAME-71.

But then, it wasn't supposed to be.

MAME-71 is the acronym for Missile and Munitions Evaluation 71 and it was designed to gather selected logistical data from direct and general support (supply and maintenance type) missile and munitions units worldwide.

The evaluation originally was the idea of CDC's Maintenance Agency but when the program finally evolved, it was a joint effort involving also the Continental Army Command, Army Materiel Command and the Field Command, Defense Atomic Support Agency.

The actual sponsorship of MAME-71 was by the Missile and Munitions Center Team at Redstone Arsenal, Ala. The Maintenance Agency has an operating segment at Redstone to comprise a part of this enterprising Center Team.

The general results of the evaluation were briefed to General William C. Westmoreland, at the Chief of Staff's Forum for Center Commanders at Ft. Benning, Ga., in late September.

The final report still is being processed through channels, and when the review is completed, the evaluation could result in some key changes in Field and Technical Manuals, TO&Es, MOS codes, training techniques and materiel acquisition procedures.

And the changes will have special significance because they will reflect how the user actually feels about the effectiveness and responsiveness of doctrine, materiel documents, personnel policies and training procedures.

The evaluation's methodology called for direct visit of units by teams of interrogators armed with carefully structured questionnaires

covering the area of logistical support provided by missile and munitions supply and maintenance depots, direct and general support maintenance units, and selected users of support services such as artillery firing batteries.

The field evaluators were provided by CDC's Maintenance and Supply Agencies; CONARC's Missile and Munitions Command; and the Field Command of the Defense Atomic Support Agency.

There were five evaluation teams fielded, with CDC being represented on four. The teams visited 255 units and queried some 1,872 people.

The sample of units visited included those in CONUS as well as in the European, Pacific and Alaskan Commands.

According to LTC D. P. Kelly, Chief of the Maintenance Agency's Redstone detachment, there are several significant advantages to this type of field evaluation. The Center Team has combined resources and represents the three major Army commands responsible for doctrine, organization and materiel. Since a single survey suffices for all the affected commands, the costs are minimized and, with more ground being covered, fewer surveys need to be conducted. The coverage is both vertical and horizontal and, thus, obtains a truer assessment of the user's requirements.

And finally, because of the multi-command approach to the problem, there is a far greater probability of implementing the recommendations resulting from the evaluation.

So, if sometime in 1972, folks in the missile and munitions supply and maintenance units see some changes in TO&Es, or FMs, or training techniques, they'll know where to place the blame.

MAME-71.



By General William C. Westmoreland



During the annual meeting of the Association of the United States Army, General William C. Westmoreland, Chief of Staff, delivered one of the most meaningful addresses of his career. The ARROWHEAD is, therefore, pleased to print significant excerpts of that speech. Time has not and can not diminish the impact of his message.

"Our Army today is a dynamic organization undergoing change in order to stay abreast of rapid changes in technology, warfare, and our society. Today I want to talk about the quality of the United States Army, or as I call it, professionalism, which is the bedrock—the foundation—upon which the security of our Nation has been based throughout our national history.

First, let me say that the Army's mission in Vietnam, although a complex one, has been virtually accomplished. We were directed to prevent the communist military domination of South Vietnam. We clearly achieved this objective. We were also tasked to train the armed forces of the South Vietnamese to enable them to defend themselves. We have substantially

achieved this second objective. While our efforts in Vietnam have not ended and the cost and sacrifices are still high, the overall performance of our Army has been splendid. We can be justly proud of our record.

But the Vietnam War has placed great stress upon the Army and, in many respects, has had an adverse effect on its professionalism. A basic problem has been that of personnel turbulence during six years of war.

We fought the war without a significant call-up of Reserves.

Excessive personnel turnover rates within units caused severe instability.

Requirements for rapid expansion compelled us to place more responsibility on inexperienced leaders.

The quality of our enlisted ranks also suffered. We were forced to accept personnel who did not meet our usual standards.

Further, during the last six long years we have devoted the bulk of our efforts and resources to the Vietnam effort while important projects were delayed due to a lack of resources to support all requirements. We were literally forced into a "Vietnam straitjacket" which restricted our actions in other areas. We must break out of this "Vietnam straitjacket" if we are to meet the challenges of the future. We must appreciate, however, that there is a difficulty in breaking out of patterns that have prevailed for six years. In training, for example, the heart of the Army's business, we have been overly influenced by the Vietnam experience. We have, in fact, become a huge individual training organization oriented toward Vietnam.

Our doctrine has also been influenced by this prolonged Vietnam exposure. In some respects, we have developed a defensive, stereotyped, tactical psychology. I call this "firebase psychosis". Our company and junior field grade officers and many of our noncommissioned officers, whose sum total of combat experience has been restricted to Vietnam, will require reorientation

to overcome such doctrinal narrowness.

On the other hand, we have learned much from Vietnam, and we should take full advantage of this knowledge. As the Vietnam era draws to a close, we have to look to the future, to our role in a changing society, and to the anticipated world-wide missions of the Seventies and how to best prepare for them. Further, we must emphasize that there are exciting challenges and great satisfactions in serving and

General Westmoreland's efforts to improve professionalism in the Army are designed for one purpose—to support the man at the right of the line—the combat soldier





"In looking to the future, the Army must preserve the value and traditions which have made our Army great, while accepting the challenge to build an even better Army."

accomplishing our missions in a peacetime environment.

Now, as after every expansion period, the Army must adjust to new realities, engage in introspection, and undergo a revitalizing and rebuilding process.

We are moving aggressively to solve our problems. And, in fact, we are solving them. All indicators point to the fact that we are moving upward. Many positive programs are in being; others are planned. We are generating the imaginative, innovative ideas and dynamic approaches that are needed at this critical time.

The basic thrust of our efforts is to build the finest Army in the history of this country, one based on improved professional competence, willing self-discipline, individual pride and dedication. This effort involves three objectives:

Enhanced professionalism

Improved Service life and attractiveness

And increased public understanding and support.

All of these objectives are interrelated. One is dependent on the others for success. However, achievement of the highest standards of professionalism is our over-riding concern. All else is secondary.

The first objective of enhancing professionalism is directed toward improving professional competence and building among Army men and women of all ranks a strong sense of accomplishment and achievement in performing well an important job.

The second objective of improving Service life and attractiveness is directed to removal from Army life sources of aggravation which detract from the environment in which the military man and his family live, yet contribute nothing to the accomplishment of the Army's mission.

In our movement toward enhanced professionalism, we are making excellent progress. I

will mention some of the more significant steps we have taken.

One of the first actions was taken in November of 1969. At that time, I dispatched a letter to all officers in the Army concerning personal integrity and professional ethics. I said, in part:

. . . Each one of us stands in the light of his brother officer, and each shares in the honor and burden of leadership. Dedicated and selfless service to our country is our primary motivation. This makes our profession a way of life rather than just a job. . . .

This letter set the tone for subsequent actions.

I am relying on the officer corps to lead the

way in the revitalization of the Army. Although the noncommissioned officer corps is the backbone of the Army, the officer corps is the very heart of the Army.

Because of my feelings on this subject, I signed today . . . a letter to each officer in the United States Army on the subject of "Special Trust and Confidence". I would like to read that letter to you now: (See adjoining box)

* * *

This, then, is my charge to each and every officer—the charge that he must epitomize—in words and deeds—the ideals of the true professional soldier. He must be the hallmark of pro-

continued on page 18



"The basic thrust of our efforts is to build the the finest Army in the history of this country, one based on improved professional competence, willing self-discipline, individual pride and dedication."

"... we have developed a defensive, stereotyped, tactical psychology. I call this "firebase psychosis. We must break out of this Vietnam straitjacket."



An officer's commission reposes "special trust and confidence in the patriotism, valor, fidelity, and abilities" of each of us. Several months ago, I gave new emphasis to policies that reflect greater trust and confidence in the officer corps. My most recent decision to decentralize Army training is a prime example.

We must further rejuvenate the meaning of "special trust and confidence" as we develop a professional force of the highest quality. Accordingly, I want the policies and practices of the Army to reflect:

More careful selection of commanders who can provide honest, forthright, and productive leadership and who will establish and maintain high standards.

More reliance on the integrity and judgment of commanders.

More responsibility and authority for our

qualified leaders.

More emphasis on mission-type orders.

More personal effort on the part of seniors to guide, develop, and support subordinates.

More emphasis on demonstrated performance and less reliance on sterile statistics in evaluating efficiency.

More personal involvement of officers in the dialogue of command information and less reliance on written communications in passing instructions and policies through the chain of command.

The policies above must be implemented by officers at all levels. We all share a responsibility to achieve and maintain the highest standards of military professionalism throughout our ranks. The accomplishment of this goal requires that each officer renew his determination to prove worthy of "special trust and confidence".

fessionalism. Let there be no misunderstanding, the noncommissioned officer remains a vital part of the Army. His direct relationship with the men in the ranks makes his leadership role a highly influential one.

Honest, alert, sensitive leaders—officers and noncommissioned officers—who demand high standards must characterize the chain of command. These leaders—professionals—must raise the self-discipline, skill level, and pride of the individual soldier and the effectiveness and esprit of our units to an all-time high. This is a demanding objective under current circumstances, but it is an exciting challenge.



Now, in closing, members of the AUSA, let me address you directly on a matter of great concern to all of us. I mentioned before the importance of increased public understanding and support for the Army. Building this understanding and support is a role for which AUSA is nobly suited, and one which your leadership has accepted.

Despite our best efforts to enhance the professionalism of the Army, we cannot “go it alone”. We exist as an institution to serve the legitimate and continuing defense needs of this great Nation. That story of what we are and why we exist can be told to the public by you, gentlemen of the Association of the United States Army. I welcome your efforts.

In looking to the future, the Army must preserve the values and traditions which have made our Army great, while accepting the challenge to build an even better Army. The truth of the matter is that the Army is more skilled and capable of dealing with social change, while still preserving worthwhile traditional values, than most institutions. We can do much for our country by leading the way for the rest of society in this respect by setting a good example.

* * *

I am certain we are moving in the right direction at the institutional level to improve the quality of professionalism in the Army.

We are preserving the values and traditions which have made our Army great.

We are recognizing the imperatives of social change and moving wisely to help our Nation.

We are building an Army finer and more professional than ever before in history.

But how well we progress in these efforts depends on the support of the American people.

Our charge, gentlemen . . . is to rally this support.

This requires the personal effort of all of us. I know I can count on you.



Cost Reduction: The Army's Monetary Diet

By Timothy B. Bramley

If CDC was ever asked to evaluate what Army Programs are among the most successful within the Command, the Army Cost Reduction Program would have to be in the forefront.

The program initially was established in 1962 for the purpose of reducing operating costs and improving management without impairing the operational effectiveness.

In Fiscal Year 1971, the program was renamed the Army Resources Conservation (RECON) Program which incorporated the principal goals and essential elements of the Cost Reduction Program, but simplified reporting procedures and provided increased emphasis on motivation, recognition, and interchange of ideas.

The program further was revised for FY 72, as the Army Cost Reduction Program to provide the Army commander/manager with greater latitude in the execution of a cost reduction program tailored to his specific requirements.

CDC's history in the Cost Reduction Program shows that there was very little organization in the early conduct or direction of the program insofar as assignment of goals and achievements were concerned. As the program took on a semblance of organization by the end of FY 67, the Command still managed to achieve more than 100% of the assigned goal in

every year since the beginning in July 1962.

During FY 68, CDC attained 210% of the Command Cost Reduction Goal and this achievement resulted in a DA Commendation Certificate for the Command. In FY 69, the Army Chief of Staff, General William C. Westmoreland, awarded two Certificates of Merit to Combat Developments Command for achievements in the Army Cost Reduction Program in which a total effort produced almost 200% of the Command's assigned goal.

One award went to Headquarters, USACDC, to acknowledge the managerial efficiency and economy of the entire command in the Army Cost Reduction effort. CDC's Experimentation Command at Fort Ord, Calif., was singled out for a separate award for operational economy in managing scientific experiments on the command's "live chessboard."

Fiscal Year 1970 has to be considered as the banner year for the Command. Spurred on by increased emphasis in the program from Army Chief of Staff, CDC responded with first year savings of 1.4 million dollars or almost 800% of the assigned goal. This represented a cumulative three year savings of 12 million dollars. As in past years, the Experimentation Command led the way by achieving more than 90% of the Command's validated savings. LTG Forsythe signed personal letters of appreciation to the commanders, commending them for their personal interest and support which assured a successful Cost Reduction Program.

DA has just accepted CDC's FY 71 Resources Conservation Program input. The command, with an assigned goal of \$170,000, provided validated savings of \$228,900 which is equivalent to 135% of the Command goal.


The savings generated by the Command reflect the conscious effort on the part of CDC personnel every where to reduce costs wherever possible.

The dollars saved per cost reduction action ran the gamut from several hundred to more than one million. Suggestions to the Incentive Awards Programs have been reported under

Mr. Timothy B. Bramley is currently a Management Analyst working in the Comptrollers Office, Headquarters, CDC, Ft. Belvoir, Va.

the Cost Reduction Program, providing the suggestor with a cash award in addition to producing tangible savings for the Command. In other actions, personnel have devised more expedient methods for performing their mission which have resulted in a considerable budget savings.

Unfortunately, in some instances, monetary savings from valid CDC cost reduction actions cannot be reported due to mechanics of the program. For example, program directives have restricted CDC from reporting savings of funds which do not accrue to CDC but to another Army activity charged with their expenditure. However, these savings are indicative of the fine efforts made by USACDC personnel to keep operating costs in line with today's austerity.

It is clear from the past performance in the Cost Reduction Program that CDC is capable of streamlining the use of internal assets for the future. Through continued support and timely documentation and reporting of cost reduction actions, CDC will again and again be able to surpass its assigned goals. In a message expressing his appreciation to all personnel who contributed to the outstanding showing by the Army in the FY 71 Resources Conservation Program, General Westmoreland said, "this achievement illustrates in meaningful terms that the Army is endeavoring to obtain the greatest possible value for every dollar we spend. Your demonstrated dedication to the efficient management of our resources continues to be vital in this period of austerity." 

COST REDUCTION PROGRAM

FISCAL YEAR	DA ASSIGNED GOAL	CDC ACCOMPLISHMENT	PERCENT
(In Thousands)			
1963	5.0	3,547.6	70952%
1964	1.6	50.9	3181%
1965	64.8	127.2	196%
1966	90.0	145.4	161%
1967	157.0	528.2	336%
1968	63.0	132.3	210%
1969	69.0	135.3	196%
1970	170.0	1,348.4	793%
1971	170.0	228.9	135%
1972	165.0	?	?

Call It An Intelligence Support Concept; **COLOR IT BICC/BIC**



By Major Joe E. Muckelroy

BICC/BIC.

What is it? Where did it come from? Will it provide the commander of the 1970's the intelligence support necessary to cope with a highly mobile enemy?

These questions, particularly the latter, are pertinent to any discussion of the future division combat intelligence support organizations being considered by Army planners today.

One point is clear. The current combat intelligence organization supporting the division cannot provide the degree of support required to cope with a sophisticated enemy force. The Military Intelligence Company (Division), as structured in the H-series Table of Organization and Equipment (TOE), is lacking in several areas.

Although the Military Intelligence Company provides the division with counterintelligence,

interrogation of prisoners of war, and imagery interpretation support, it does not aid the division G2 or the brigade and battalion S2s in coordinating the collection efforts of the unit. A six man Analysis and Production Station is provided to aid the G2 but no analysis support is provided the brigade and battalion S2s.

These deficiencies, suspected in peace time, became more and more evident as the Vietnam War progressed.

In any counterinsurgency effort, finding the insurgent is much more difficult than defeating him. This fact was all too evident in the early years of the Vietnam War. The problem was not entirely due to a lack of information. In fact, there were many instances where G2 and S2 sections were unable to cope with the volume of information produced by US and Vietnamese collection agencies. The G2 and S2 sec-

tions simply did not have the resources to analyze the information.

Fortunately, the problem received early recognition and attention by the Army. In 1965, a major study effort was undertaken to address the problem. The Tactical Reconnaissance and Surveillance Study (TARS-75), prepared by the US Army Combat Developments Command, Institute of Combined Arms Studies, was completed in late 1966, and published in July 1968. This comprehensive study not only provided insight into the problem itself, but also recommended a specific organizational concept to fill the need. The Chief of Staff of the Army in June 1967, approved, with modifications, the testing of the organizational concepts recommended by the TARS-75 Study.

The TARS-75 Study recommended the organization of a separate intelligence support element with dedicated communications to control and coordinate all collection means available to the force, to screen and integrate information, and to produce and disseminate intelligence. This element was the Battlefield Information and Control Center commonly called BICC and became part of the Intelligence and Surveillance Battalion (I and S Battalion), now referred to as the Combat Intelligence Battalion.

In the TARS-75 Study, BICC sections were provided for the division, each brigade, and each maneuver battalion. In addition, Battlefield Information Centers (BIC) were provided for the Armored Cavalry Squadron, Division Artillery, and the direct support artillery battalions. The BICs differ in concept from the BICCs in that they do not control any collection resources of the supported unit or produce intelligence. They were designed to expedite the flow of information to and from the supported unit and to insure close coordination with the other BICC/BICs.

The BICC/BIC concept was not intended as a replacement for the G2/S2 sections. The concept provides the G2 and S2 sections with an increased capability to produce and disseminate intelligence by allowing the G2/S2 to place more emphasis on planning and analysis, and supervising the BICC/BIC as the action

agency. Furthermore, the division and brigade BICCs were designed to provide an all-source integration of information which had not previously been available.

What command relationship exists between the G2/S2 and the BICC personnel? As defined in the TARS-75 Study, the BICC is a support section composed of combat-intelligence trained officers and enlisted men who aid the battalion, brigade, and division G2/S2s in coordinating and controlling collection means available to the particular echelon of command. The BICCs further provide the added capability of analyzing and integrating all information gathered to aid the G2/S2 in producing finished intelligence. The BICCs are organic to the I and S Battalion and are employed in a direct support role to the supported echelon. This direct support role is similar to that of division artillery battalions.

While the BICC/BIC concept was war gamed during the conduct of the TARS-75 Study, field testing also was required. In the fall of 1969, the 163d Military Intelligence Battalion was activated at Ft. Hood, Tex., to support testing of the TARS-75 concept under the supervision of the newly activated Project MASSTER. The 163d was organized with a Headquarters and Headquarters Company and a Direct Support Company. All BICC/BIC sections except the division's were assigned to the Direct Support Company. The division BICC was assigned to the Headquarters Company.

Initial testing of the BICC/BIC sections was oriented to a low-intensity conflict environment. In order to establish the validity of the concept, testing was designed to provide a comparison between S2 sections supported by BICC/BIC teams and those with only TOE S2 sections. The main objective of testing was to determine whether the BICC/BIC—supported G2/S2 sections could provide a more complete intelligence picture of the enemy situation developed during the different test phases. Both field training experiments and command post experiments were scheduled to provide comparison test data.

Test results obtained from the FTXs and CPXs have established the validity of the BICC/BIC concept in a low-intensity conflict environment. The BICC/BIC supported G2/S2 sections demonstrated that they possessed an increased capability to correctly portray the enemy situation developed in the test scenarios.

The increased capability to process the volume of information into intelligence was evident and the supported G2/S2 had sufficient time to study the available information and to develop trends in enemy activity. By screening the developed information, the BICC/BIC personnel were able to provide the G2/S2 with a usable intelligence product.

The unit commanders, when debriefed, were in agreement that the BICC/BIC—supported intelligence sections provided more comprehensive intelligence than that provided by the G2/S2 sections without BICC/BIC support.

Low-intensity testing now is completed and emphasis can be placed on mid-intensity testing. Mid-intensity tests are scheduled for FY 72.

Subsequent to the completion date of the TARS-75 Study, other studies have been finalized in which the BICC/BIC sections have been included. By combining data from MASSTER testing with information from these studies, the BICC/BIC concept has been refined, particularly in regard to the manning levels of the various BICC/BIC sections.

The battalion level BICCs have been reduced from eleven men to seven. The division BICC

no longer is a part of the Headquarters Company but is assigned to the Direct Support Company.

Refinement is an important facet in the development of the concept.

During CP-3D, a recent CPX at MASSTER, a developmental Tactical Operations System (TOS) was tested in conjunction with the BICC/BIC—supported S2 sections. Although the developmental TOS tested was an early model, the benefit to be derived from a fully developed TOS and BICC/BIC combination was obvious. The BICC/BIC sections provide intelligence expertise to the supported elements and TOS provides an automated means of compiling, storing, displaying, and disseminating intelligence.





The interface between the BICC/BIC elements and TOS is one which will prove highly beneficial to the supported unit. The TOS will not eliminate the need for BICC/BIC support, and will prove to be a vital asset to BICC/BIC personnel. The TOS should insure timeliness and provide a significant improvement in the quality of intelligence.

The requirement for timely, accurate intelligence will be paramount in the highly mobile future battlefield. The flow of information from the collection agency to the G2/S2 must be accelerated to allow for analysis and the production of usable intelligence. The BICC/BIC concept provides an increased capability to produce intelligence far beyond that currently available to division, brigade, and battalion commanders. The ability of the BICC/BIC supported G2 and S2 sections to produce an improved intelligence product has been established in field testing at MASSTER and the future of the BICC/BIC concept is most prom-

ising. Mid-intensity conflict testing will provide additional data upon which further refinements can be based.

As TOS is developed, the ability of BICC/BIC personnel to aid the G2/S2 in producing intelligence should be increased further as a result of improved data handling. Due to advancements in the field of sensors and other collection means, data handling and analysis must keep pace with the increased collection capability of the division.

The BICC/BIC concept fills a vital need for improved intelligence in the division and its importance cannot be over emphasized. The increased intelligence production capability which the BICC/BIC provides to the supported commander will be a key to success on the future battlefield.



Major Muckelroy is currently assigned to the USA Combat Developments Command's Intelligence Agency located at Ft. Huachuca, Ariz.



The Point of the Arrow

DECEMBER QUESTIONS

A. As currently defined, what is the difference between the terms Close Air Support and Direct Aerial Fires?

B. What am I?



C. An Expanded Service Test (EST) of new materiel will include several type test objectives which were not covered by a Service Test. What are some of those objectives?

D. What objectives/requirements documents does the Materiel Need system replace?

E. In what area of the world has Communist China exhibited its greatest interest through economic aid?

NOVEMBER ANSWERS

A. When was the NIKE HERCULES initially deployed and what system is planned to replace it?

ANSWER: In 1958 and it will be replaced by the SAM-D. The NIKE HERCULES is a command-guided air defense system and has been a mainstay against high altitude attacking aircraft since 1958.

B. What are the differences between the M60A1 and M60A1E2 tanks?

ANSWER: The M60A1 has a 105mm conventional gun as its main armament and the M60A1E2 has a 152mm gun launcher capable of firing both a combustible cartridge and the SHILLELAGH missile.

C. What is the difference between a field experiment and a field evaluation?

ANSWER: A field experiment is an experiment conducted in the field with military personnel and equipment under simulated operational conditions in a carefully controlled and instrumented environment to obtain objective, quantitative data on organizational, doctrinal and material concepts, or on organizational or man-machine system performance. A field evaluation is a structured collection and analysis of data on a unit conducting normal operations over an extended period of time for the purpose of examining new and/or revised doctrine and organization.

D. What am I?



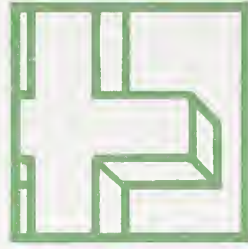
ANSWER: Soviet ZSU-23-4 Quad 23mm self-propelled, radar directed anti-aircraft weapons system.

E. What is the relationship between a Table of Organization and Equipment (TOE) requirements document and a Modified Table of Organization and Equipment (MTOE) authorization document.

ANSWER: The basis for development of each type document differs. In essence, the DA-published TOE provides a standard organizational structure for each type TOE unit. The MTOE provides the commander with the means to modify or adjust this standard TOE to meet specific requirements, and is the DA-approved authorization document, the basis for personnel and equipment requisitioning and for unit readiness reporting.

F. Do the Soviets prefer that the infantryman dismount from the APC and fight?

ANSWER: No, the Soviets prefer that the APC be used to carry the infantryman up to and through the battlefield. Dismounting would be only for short periods, when necessary.



For God and Country

Chaplain (Colonel) Joseph Chmielewski was the Chaplain of the Military District of Washington (MDW) from 1958 to 1963, and before retiring was the Staff Chaplain of the Army Combat Developments Command (CDC) headquartered at Ft. Belvoir, Va.

Prior to joining CDC, Chaplain Chmielewski served in Vietnam and Korea. A Mount Saint Mary's Seminary (Baltimore) graduate, he has been Post Chaplain at Ft. Dix, Ft. Monmouth and Walter Reed Army Hospital. His duties at CDC included staff management of the Chaplain portion of the combat developments program.

Chaplain Chmielewski is the Army Chaplain who originally wrote, produced, and costumed the popular Christmas musical drama, "The Night of the Miracle", which was first produced in the Washington area by the US Army Band in 1962.

"After seeing a couple of the Christmas programs at

MDW some years ago, I said to myself 'There's got to be more than this,'" explained the veteran Chaplain who entered the service in 1942 and saw his first combat service in Normandy. So, he started improving the Christmas pageants in 1959. For Christmas 1962, he called on full Army Band and Chorus support, wrote the story of Lamech the shepherd in Bethlehem, and willfully pushed out a production of "The Miracle".

"I had to make most of the scenery myself, and the costumes were also scrounged from 'local sources,' shall we say," said the Chaplain.

"The Miracle" was an almost instant hit, and the local NBC station even won an "Emmy" for televising it. "The Night of The Miracle" can be seen at the Kennedy Center this year. The tentative dates and times are 18 and 20 December at 8:30 p.m., and 19 December at 2:30 p.m.

By Chaplain Joseph Chmielewski

General Norton and Friends:

In order to express how I feel on this, the eve of my retirement, allow me to refer to a story told by the Master in the good book. It is the story of the good Samaritan and St. Luke narrates it well.

Allow me to refresh your memory. We don't know the name of the good Samaritan but admirers, for short, have called him good Sam. Anyway, he is going along on horseback over the road that dips down from Jerusalem toward Jericho and, suddenly, there in the bushes beside the road he sees a groaning Jew, beaten up, bleeding, half-dead, robbed by bandits, helpless and pitiful. The marvelous thing about the story is that the samaritan did something, did it promptly, and did it himself. Others, like a priest and a Levite, when they saw the man, walked on by on the other side but good Sam went over to him, poured oil and wine on his wounds and bandaged them. Then he put the man on his own animal and took him to an inn where he took care of him. The next day he took out two silver coins and gave them to the innkeeper. "Take care of him," he told the innkeeper, "and when I come back this way I will pay you back whatever you spend on him." Notice the obvious and easy things the good Samaritan did not do—he didn't wring his hands in pity and murmur "Poor fellow, how I pity you, my heart goes out to you"; he didn't

stroke his beard and mutter, "I wonder who this chap is and how did it all happen"; he didn't unload that product of free advice and say cheerfully, "come on my man, you must learn to help yourself, on your feet with you"; he didn't get official and shake his head and say, "this situation is horrible, of course, when I get to Jericho I shall report it immediately to the proper agency".

The marvel of the whole story is that good Sam saw a man in trouble; he did something immediately; he did it personally; he did it effectively. And furthermore, he did it for someone who meant nothing to him at all. There was no human attraction in the case; he wasn't playing the gallant knight to a beautiful young damsel in distress,—no, there was no love lost between the Samaritans and the Jews, but good Sam never thought of these things—all he knew was that there, in trouble, was his brother in the great family of humanity—his brother because they were both children of God—so like a brother he helped him. And please note this, charity often stops dead when there is a cost involved. People will make the noblest promises, the highest resolves, but then draw back when they realize the sacrifice involved. They didn't think the water was going to be so cold, but not good Sam, it cost him too; it cost him time and trouble, oil and wine; it cost him physical effort. He had to bandage up the poor man as best he could, lift him up on the horse



Chaplain (Colonel) Chmielewski, HQCDC Chaplain, receives a retirement plaque and the Legion of Merit (2nd Oak Leaf Cluster) from LTG Norton, Commanding General of Combat Developments Command.

and himself walk along on foot all the way to the end. Yes, and it cost him money, the money he gave the innkeeper. And that's the last we see of good Sam as he goes riding down the road of history, an obscure and humble figure without the benefits of a PIO.

Friends, what has this story to do with my retirement? I like to feel that I was part of a military force for almost 30 years that was a right arm of another good Sam—Uncle Sam. Uncle Sam has played the role of good Sam for a greater part of this century. The role most familiar to me was that of the immediate help given to the victims of World War II in Europe. How promptly, like good Sam, did Uncle Sam act. He poured oil and wine into the wounds of the victims of Europe; he spared no expense, not even manpower or American blood.

It wasn't long after that another victim fell prey to robbers—South Korea—again good Uncle Sam went to his aid.

The latest victim we are all most familiar with, this tragedy—the South Vietnamese. They too were robbed, beaten, and lay half-dead along side of the road. Over the years good Uncle Sam has sent over a million men to this victim's aid along with oil and wine and silver coin to pay for the expense involved. Note the similarity of the actions of Uncle Sam and good Sam—yes—Uncle Sam did not stand in pity over the victim and ask a lot of questions or shake his head and say he would report it to the proper agency—no, he acted promptly and effectively and spared no cost.

I witnessed and took part in all these three great acts of supreme charity and I am thank-

ful to the Good Lord for allowing me to be a part of it all, whatever small contribution I may have made.

If I may tax your patience just a moment more—I am trying hard not to make this a sermon—let me add this: individuals are judged by their actions by the Almighty judge after they are dead; each must give an account of his stewardship. I believe there is such a thing as a judgment of nations—yes, here in this life. Because nations, as nations, will not exist after the end of time. The Good Lord, therefore, in all justice, must punish a nation if it is guilty in this world—to be seen by all nations.

I believe that we, as Americans, have been thrice blessed for our great acts of charity toward other nations. In this century, for example, we have not been plagued with wars on our own soil; we have enjoyed great prosperity and many, many blessings. The military can take much credit for this, since it was the principal agent who personally served in these foreign lands and was a good Sam who came to the aid of the victimized countries. It is sad to hear some Americans malign the military when they have enjoyed the blessings the military brought to our land. What ever problems we have suffered have been of our own making and have been caused by individuals who forgot to exercise the role of good Sam. Their motivation was self satisfaction and greed.

Let me close by saying again I am proud to have served as a member of good Uncle Sam's great army of charity. Thank you and God bless you.



Spot Reports

155th Born

FT. ORD, Calif. . . . You can't keep a good outfit down.

Rising like a Phoenix from the ashes of the old Third Aviation Company (Attack Helicopter) which was officially deactivated in June of this year at Yuma Proving Ground, comes a new Attack Helicopter unit, the 155th Aviation Company, now attached to the Army Combat Developments Experimentation Command (CDEC) at Ft. Ord for support in its experimentation at the field laboratory on Hunter Liggett Military Reservation.

Commanded by Major David Funk, the aviation group has turned their attention from the Cheyenne, which it was helping to test at Yuma, to the AH-1G Huey Cobra for requirements of CDEC experimentation. Their activities include the 43.6 (helicopter survivability tests) continuing through December under the direction of CDEC's Project Team IV, commanded by Colonel Raymond G. Lehman, Jr.

In this experimentation, helicopters—as part of a combined arms team—are pitted against a ground threat and provide important data for evaluating future attack helicopter combat capabilities.

The 155th's original Third Aviation Company was created in August 1956, at Ft. Riley, Kan., and was later deactivated in Germany in 1960. It was reactivated again in August of 1964, at Ft. Benning, for

movement to Vietnam where it was subsequently deactivated in December of the same year.

Again reactivated in October 1968, at Yuma Proving Ground, Ariz., its colors were retired in June 1971, the unit becoming the 155th and coming to Hunter Liggett Military Reservation, CDEC's field laboratory, to assist in the aircraft survivability experimentation taking place there.

Moonwalker



FT. BELVOIR, Va. . . . It may be that a Soldier will have a mechanical "buddy" in his future. The Engineer Agency at Ft. Belvoir is investigating to see if the Army has a requirement for a machine designed to "walk" on the moon.

This moonwalker is battery powered and uses a computer to coordinate its "legs". Radio controlled, it has the capability of going into dangerous or hazardous areas such as minefields, radioactivity, and mud that a wheeled or tracked vehicle cannot.

The current model being evaluated can be remotely controlled to carry an 80-pound payload.

The ideas for its use include using the moonwalker instead of a man to enter radioactive or chemical contaminated areas for survey or reconnaissance, evacuation of wounded during combat operations, transporting TV cameras or other sensing devices into forward areas, and resupplying units under fire.

CDEC

FT. ORD, Calif. . . . The United States Army Combat Developments Experimentation Command (CDEC) is the Army's field laboratory for Combat Developments. Here, the various possible combinations of Soldier-doctrine-materiel-organization are brought together in a realistic simulation of future combat, a military field experiment. From the experiment are obtained the data needed to assist in determining which combination will prove most

effective on future battlefields.

A representative "enemy" threat is designed and placed in a typical combat situation, on the ground. Then, a proposed combination of US Soldier-doctrine-materiel-organization, from among all possible combinations, is pitted against the threat. Using sophisticated electro-mechanical instruments, CDEC obtains precise data measurements and event descriptions from each encounter during the experimentation "trial". Many trials are conducted, to insure that the data collected are valid and reliable, and each potentially improved combination is similarly evaluated.

CDEC, sometimes called the "Army's Live Chessboard" is the largest of CDC's 29 Institutes, Groups and Agencies which look critically into the Army's present and future combat capability. CDEC, which utilizes half of CDC's 6,000 strength, provides the scientific objectivity needed to check the validity of new concepts and doctrine that will affect how the Army can best fight, be equipped and organized to perform its roles.

Celebration

FT. ORD, Calif. . . . The US Army Combat Developments Experimentation Command at Ft. Ord, Calif. recently celebrated its 15th year of service to the Army.

The anniversary of its Organization Day was attended by Lieutenant General John Norton, commanding general of CDEC's parent unit, the US Army Combat Developments Command (CDC). The festive activities lasted all day and included dem-

onstrations by CDEC soldiers and sport competition.

Escorted by CDEC's commanding general, Brigadier General Ray Ochs, General Norton visited with many of the troops and was greeted with cheers of "for he's a jolly good fellow". General Norton ate chow in the field with the troops and that night was a guest at the Anniversary Ball sponsored by the Senior NCO's of the command.



General Norton was definitely a big hit with CDEC personnel. One who is not likely to forget his visit is "Lieutenant General T.J." shown above adjusting his headgear.

Liaison Talks

FT. MONMOUTH, N.J. . . . Members of the Combat Developments Command (CDC) Communi-

cations-Electronics Agency (CEA) were recently privileged to hear two dynamic and inspiring presentations by foreign liaison officers stationed with the United States Army Signal Center and School at Ft. Monmouth, N.J.

The presentations were part of a program initiated by Colonel James P. Mattern, CEA Commander, to facilitate the exchange of information with the resident liaison officers stationed with the Signal School. Through the program, personnel at CEA are gaining a greater appreciation of the communications doctrine, organization, and materiel used by our allies. Each of the liaison officers have been very enthusiastic about the program, for they believe that through their presentations they also have the opportunity to learn more about the US concepts for tactical communications.

The first two presentations were given by the French liaison officer, LTC Michel d' Anglade, and the German liaison officer, LTC Norbert Miksch. Both presentations were professionally done and led to frank discussions of tactical communications, present and planned. Their ideas proved that there is much to be learned from their approaches to communications problems. Some of their concepts were found to be similar to US concepts, but many differences were also discussed along with the rationale.

A most interesting aspect of the presentation involved the role of the Signal Officer in the French and German armies. Each army has a vertical communications organization leading to the highest level of staff and command where doctrinal planning responsibilities are held. This is an arrangement which is similar to the old US organizational concept where a chief Signal Officer had overall authority over signal activities. Both armies also have Signal Officers at division level who report directly to the division commander, and have full control over a

much larger segment of communications than under US concepts.

It was also interesting to note that each of the countries also recognizes the requirements for peacetime austerity, but they still retain large signal organizations that could operate flexibly in the event of war.

Additional presentations are scheduled from the Canadian and Australian liaison officers during the coming month. This will complete the first round of orientation discussions. Already the first two have provided the basis for additional meetings to explore specific areas of interest in greater detail.

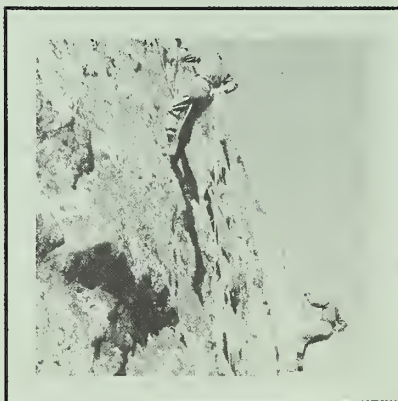
Col. Mattern emphasized the fact that this important program must be on a "two way street" basis. The foreign liaison officers are being invited to all appropriate US briefings and equipment demonstrations.

In general, the channel opened by these discussions appears to offer a splendid opportunity to get to know these individuals better as professional military communicators. They are an asset to the signal community and represent a source of information which has been somewhat overlooked in the past. The CEA intends to change that situation.

Rapelling

FT. ORD, Calif. . . . Rapelling, according to Webster's dictionary, is "descent of a precipitous cliff by means of a double rope passed under one thigh, diagonally across the body and over the opposite shoulder". Bet that's easier said than done.

Members of the Experimentation Brigade, Army Combat Develop-



ments Experimentation Command (CDEC) would know. They did it last week.

Rapelling training was the third of a series of survival training courses that these CDEC men have been receiving. The first was "Survival Swimming and River Crossing techniques" (See November ARROWHEAD) which they took at the Post swimming pool, learning the use of safety lines and special techniques to help them get themselves across deep water, fully dressed and lugging heavy gear and weapons. The second was parachute ground training which they have completed, although the parachute jumps—they'll make one each—will take place on November 13th, at Hunter Liggett, CDEC's field laboratory. The third is the rapelling training just completed. This training included choosing and establishing rapelling sites, equipment and safety requirements, fundamentals of rapelling and the methods of teaching it. Two instructors from Seventh Special Forces group at Ft. Bragg, N.C. were the instructors, and they trained fourteen CDEC soldiers—4 officers and ten enlisted men—to act as teachers to the command's troops. As the above picture illustrates, the cliffs at Hunter Liggett Military Reservation proved to be quite challenging.

The survival training—how to make a safe river crossing, how to

get to the ground from aircraft the easy way, and, now, how to get down a cliff without breaking your neck—are all called "Adventure Training" and it's a whole new idea in providing realistic safety and survival training for service men and women, developing in them skills and techniques for use at some vital time in their futures when such experience may mean the difference between life and death—theirs.

Plaque Awarded



FT. BELVOIR, Va., . . . Mr. Clayton R. "Dick" Lee (*above*) a Mechanical Engineer in the Materiel Division of Combat Developments Command Maintenance Agency, Aberdeen Proving Ground, Md., admires a plaque that was awarded for the best technical paper presented at the American Ordnance Association Meeting held in Detroit on Nov. 9, 1971. The presentation was made by LTG. (Ret) Jean Engler, president of the Association. The subject of the paper was Primary User Reliability and Maintainability Considerations and Techniques for Illustrating the Maintenance Burden.

Ar-Com Award



FT. BENJAMIN HARRISON, Ind. . . . Master Sergeant Harley W. Raska (right) Combat Developments Command (CDC) Personnel and Administrative Services Agency (PASA), was recently awarded the Army Commendation Medal (Oak Leaf Cluster) by Brigadier General R. R. Condit, Jr., (left) commanding general of the Personnel and Logistics Systems Group, Ft. Lee, Va., during a visit to CDCPASA.

MSG Raska received the award from HQ, US Army Europe and Seventh Army for distinguished services as First Sergeant of Companies B and C, U.S. Army Europe Combat Support Training Center from July 1968 to July 1971. Sergeant Raska joined CDCPASA in July 1971 and is assigned duties as a Project NCO in the combat developments process.

CDEC Visitors

FT. ORD, Calif. . . . Recently the Combat Developments Experimentation Command (CDEC) located here has been the host to many officers of foreign armies.

Earlier this year visitors from the Federal Republic of Germany, General Army Office, attended a logistical orientation tour. Among the distinguished visitors were Brigadier General Fritz H. Birnstiel, Deputy Commander and Chief of Staff of the FRG General Army Office and Brigadier General Hans E. Drebing, General of the Aviation Troops. Also on the tour were Colonel Fritz von Westerman, Chief of Support Plans Division, Army Staff, and Colonel Helmut Frey, Chief, Materiel Maintenance Branch, Army Logistics Staff.



The tour, directed by US Army Major Edward M. Bahniuk, was hosted by CDEC's commanding general, Brigadier General Ray Ochs.

As shown above, the visitors received a great deal of interesting briefings on the command's sophisticated instruments used in experimentation.

In late October visitors from the Japanese Army arrived for a three-day visit. Colonel Hisatomi Sato headed the group of eighteen

officers. LtCol. Matsumoto, Japanese Liaison Officer of the Command and General Staff College at Ft. Leavenworth, Kan., acted as tour escort and interpreter.

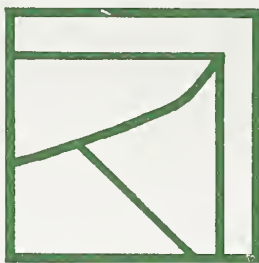
CDEC draws many visitors from foreign armies and many US posts because of the unusual and informative testing that takes place on a daily basis here.

MASSTER Award



FT. HOOD, Tex. . . . Mrs. Mary Lou Sander was recently commended for her outstanding performance of duty as secretary to Colonel Berkeley D. More, Chief of the USACDC Coordination Office at HQ, MASSTER (Modern Army Selected Systems, Test, Evaluation and Review).

Presenting the commendation is BG (MG designee) Robert M. Shoemaker, the Deputy Commanding General of MASSTER. Mrs. Sander is known to the many CDC person-



The Forum

Dear Arrowhead,

As the director of Management, Review, and Analysis, I am responsible to the comptroller of the Army for the Comptroller Officer Program. This program is so important to the Army in this era of declining resources that I am interested in promoting and publicizing it as widely as possible. I would be grateful if you would publish the inclosed article in the *Arrowhead*.

Sincerely,
James W. Gunn
Brigadier General, GS
Director of Management,
Review, and Analysis

Sir, Arrowhead is pleased to oblige.

The Comptroller Officer Program has openings for officers in grades of Captain through Colonel. The program is designed to meet the

Army's growing need for professional comptrollers to manage the complex systems and numerous resources in today's modern Army. Program members may request assignments to the 165 key and 437 supporting comptroller positions which are located throughout the world. The policy is to assign officers to alternating branch material and comptroller positions. Senior officers may request consecutive assignments to comptroller positions.

Participation in the program broadens an officer's overall career development. Analyses of recent promotion lists and senior service college lists show that a higher percentage of Program members are selected than their contemporaries who are not Program members. The excellent promotion rates indicate clearly that Program members have

received their full share of command assignments and other assignments qualifying them for favorable consideration.

Graduate education is provided at the Army Comptrollership School located at Syracuse University, N.Y., and training and orientation in current comptrollership concepts and processes are offered at the US Army Finance School, Ft. Benjamin Harrison, Ind. Approximately 30 officers per year are selected to obtain an MBA degree in Military Comptrollership at Syracuse University. An officer's opportunity for graduate schooling is enhanced by Program participation, since the first priority is given to Program members. Interested officers should read AR 614-136 and contact their career branches.

nel who have visited HQ, MASS-TER since August 1970 when she became the only CDC civilian employee located at MASS-TER.

Presentation of the award by BG Shoemaker to an employee of CDC reflects the very close relationship existing between CDC and MASS-TER.

Patrol Finder

FT. BELVOIR, Va. . . . An electronic device currently under study by the Army to help locate combat patrols may prove valuable to fire departments, forest rangers, police and rescue teams.

The US Army Combat Developments Command (CDC) recently

completed initial tests of the Precision Position Location System (PPLS) to help military field headquarters keep track of combat patrols.

Using radar and radio along with the more sophisticated computer and printer, signals from a lightweight "transponder" carried by a combat patrol are analyzed by computers which print out the exact location of that unit.

The same principles, applied to locating a lost military unit in the field, would be useful in locating lost civilian groups such as mountain climbers or exploring parties.

Initial testing was completed by CDC's Experimentation Command at Hunter Liggett Military Reservation, 168,000 acre field laboratory some 80 miles south of Monterey and Ft. Ord, Calif.

The system consists of a receiver at a control center, a receiver-transponder in an aircraft and a two-pound transponder carried by a unit or patrol.

The transponder with the patrol

sends an impulse to the control center through the aircraft. A geometric triangle formed by the ground unit, aircraft and the control center becomes the basis for determining the location of the lost unit.

When the components of the system are activated, the control center operator pushes a button on the console and a fix is taken. He then vectors the aircraft to two additional points which provide a three-directional fix. A computer analyzes the data from all the angles and prints out map coordinates of the position of the ground unit.

During initial testing phases at CDC's Hunter Liggett Military Reservation, the transponder successfully signaled from positions more than 60 miles from the control center.

General Fairfield Joins CONFOR

The United States Army Combat Developments Command's Concept and Force Design Group, headquartered in the Hoffman Building in Alexandria, Va., has a new commanding general.

Brigadier General Ronald James Fairfield, Jr. succeeded Brigadier General David S. Henderson who is retiring. General Fairfield's new command encompasses CONFORS Headquarters and its subordinates, the Special Operations Agency, the Nuclear Agency, and Concepts and Force Design Group West (Prov). Born in Minneapolis, Minn., General Fairfield entered federal service in 1940 as an enlisted man in the Illinois National Guard. Three years later he was commissioned a Second Lieutenant from the Tank Destroyer Officer Candidate School at Camp Hood, Tex.

Among the many assignments held by General Fairfield are Commanding Officer,

1st Battalion, 69th Armor, United States Army Pacific, Hawaii and later, Vietnam; Deputy Chief of Staff, Headquarters, I Field Force, Vietnam; Commanding Officer 3rd Infantry Division Support Command, United States Army Europe; Assistant Executive Officer and Aide-de-camp to Supreme Allied Commander, Europe, US Army Element, Supreme Headquarters, Allied Powers, Europe; and Assistant Division Commander, 7th Infantry Division, Eighth US Army, Korea.

The general has attained several degrees which include a BGE degree in Political Science from the University of Omaha and a Master of Science degree in International Affairs from George Washington University. The Armor School Advance Course, the Command and General Staff College, and the Army War College round out General Fairfield's military education.



Among the personal decorations held by CONFOR's commanding general are the Legion of Merit with four Oak Leaf Clusters, the Bronze Star Medal with Valor Device and two Oak Leaf Clusters, the Air Medal with four Oak Leaf Clusters, and the Purple Heart.

Brigadier General Fairfield's last assignment was Chief of Staff, I Corps (Group), Eighth United States Army, Korea.

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